(12) UK Patent Application (19) GB (11) 2 088 830 A

(21) Application No 8137043
(22) Date of filing 9 Dec 1981
(30) Priority data
(31) 80/39350
(32) 9 Dec 1980
(33) United Kingdom (GB)
(43) Application published
16 Jun 1982
(51) INT CL³
B65D 5/54
(52) Domestic classification
B8P 111 113 G1
(56) Documents cited
GB 1001697
GB 777079
US 4091929A
US 4039120A
US 4008849A
US 3863834A
(58) Field of search
B8P
(71) Applicants
Croda International Limited,
Cowick Hall, Snaith,
Goole, North Humberside,
DN14 9AA
(72) Inventor
Leonard Malin
(74) Agents
W. P. Thompson & Co.,
Coopers Building, Church
Street, Liverpool L1 3AB

(54) Tear-open package

(57) A package to be used as a means of displaying articles such as bottles at the point of sale as well as retaining them during transit and storage is provided with two rows of spaced apart perforations (19, 21) which define a tear off strip (23, 25) which facilitates separation of the upper and lower halves of the package.

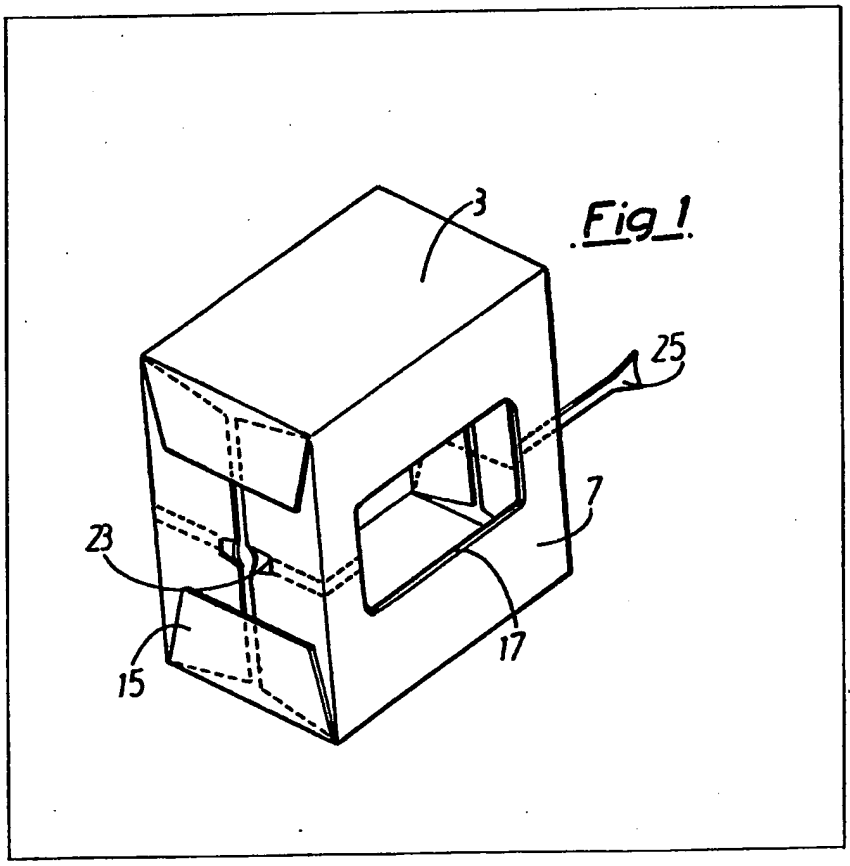

Fig 1.

GB 2 088 830 A

1/2.

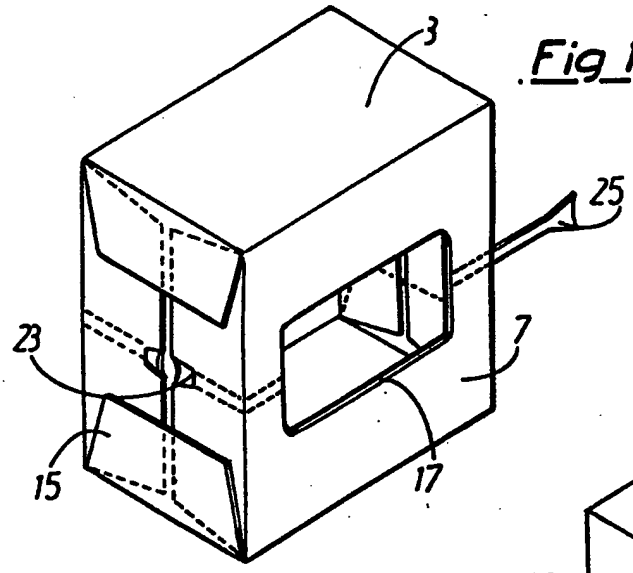

Fig 1.

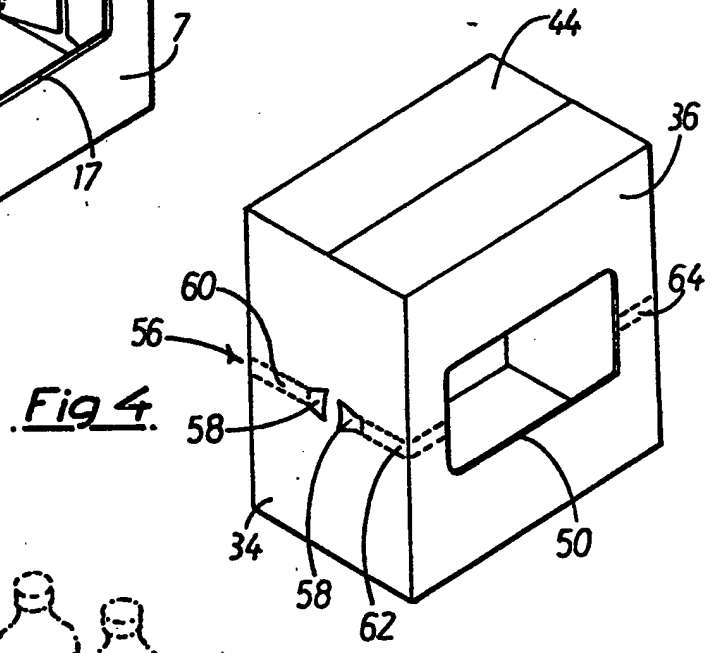

Fig 4.

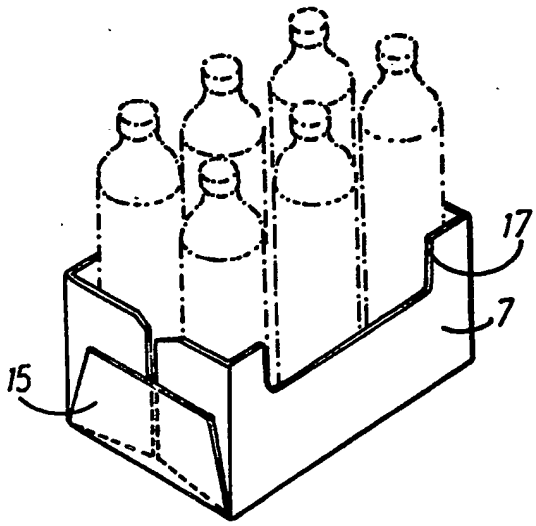

Fig 2.

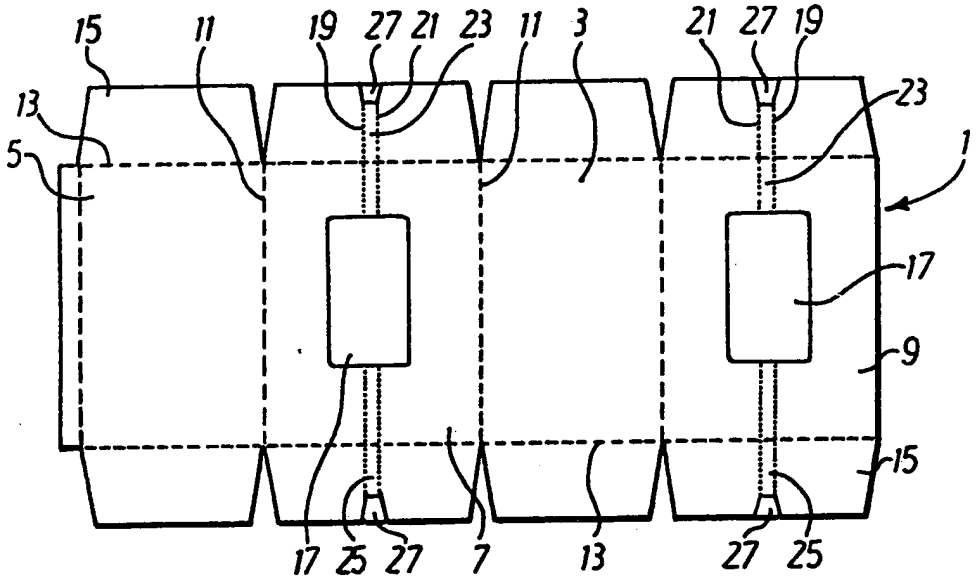
15
11
19
27
21
23
11
3
21
27
19
13
23
5
1
17
9
15
17
25
27
7
13
27
25

Fig 3.

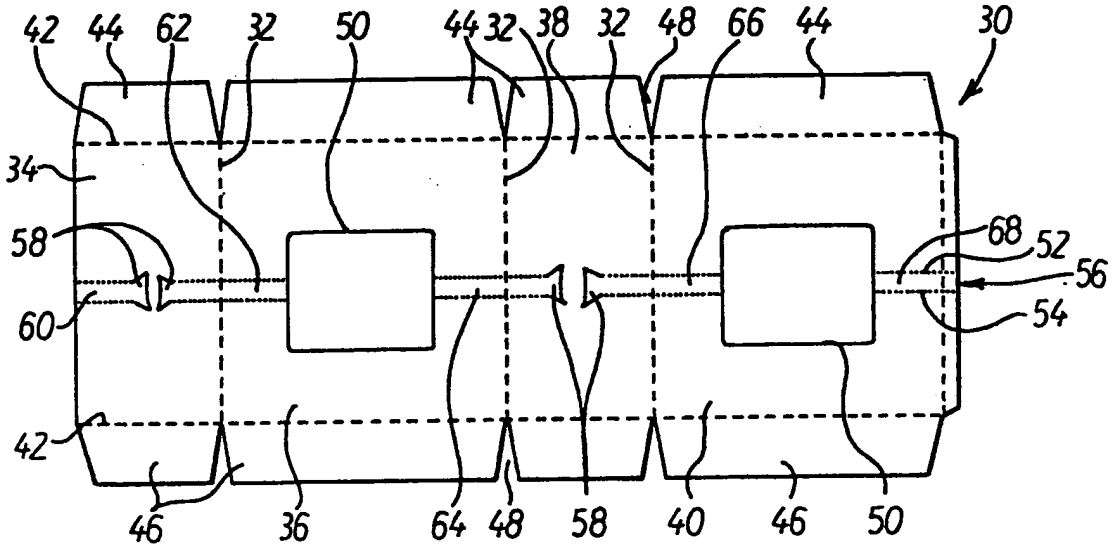
42
44
62
32
50
44
32
38
32
48
66
44
30
34
58
68
52
56
60
54
42
46
36
64
48
58
40
46
50

Fig 5.

SPECIFICATION

Improved package for articles and a blank for forming into a package

The present invention relates to an improved package for containing articles and to a blank for forming into a package.

One known package, the so-called "American carton" comprises a cardboard carton blank having side portions and top and bottom folding flap closures which produce a finished package comprising a plain or printed straight sided rectangular sectioned cardboard box with top and bottom folding flaps, which flaps are normally tape-sealed. With the known construction the contents of the box are not visible and the box is only intended for use during storage and shipment.

Another known cardboard package, the so-called "wraparound" package has top, bottom and side portions, and two sides of the package have side folding flap closures. Similarly, the contents are not readily visible and the package is only intended for use during storage and shipment. The "wraparound" package has the advantage of slightly reduced cost over the "American carton" and is more suited to automated assembly.

Yet another known package utilises a cardboard tray in which the articles are placed and around which a shrink-wrapping film is applied. Shrink-wrapping has the advantage that the contents of the package are readily visible but has the disadvantage of requiring additional labour on the filling line where only low speed manually operated machines are available or alternatively requires investment in higher speed automatic shrink-wrapping equipment.

All the above packages suffer from disadvantages when it comes to the sale and display of the contents. In the case of the "American carton" and the "wraparound" package the contents must be removed from the package to reveal the contents and transfer of the contents to shelves is time consuming and frequently results in accidental damage to the contents. In the case of the shrink-wrapped package, unless the pack is for sale and display as an integral sales unit, the shrink-wrapping must be removed from the package and this too is time consuming.

One known package has dotted lines printed on the carton which serve as a guide for removal of a portion or aperture in a side of the carton with the aid of a knife to cut through the package so that the contents may be removed. This is satisfactory for boxes containing crisps and the like where individual packets are easily removed through a small aperture but is not suitable for larger items such as bottles. It is also known to pierce a single row of perforations in the carton in place of the dotted lines and to serve the same purpose. In either case it is usually necessary to use a knife to cut the box and this can lead to damage of the contents as well as presenting a safety hazard.

It is an aim of the present invention to provide a package which can be used in existing "American carton" or "wraparound" packaging machines and which is readily adapted for displaying the contents of the package.

According to the present invention there is provided a package for containing articles comprising a base, a top and side portions connecting the base and top, the side portions having two rows of spaced apart perforations which define therebetween at least one tear off strip by means of which upper and lower portions of the package may be separated.

Preferably the package is rectangular and made from cardboard. In one embodiment, the so called "wraparound" package, two of the four side portions are formed by side folding flap closures which depend from the top, base and the other of the side portions. Of necessity in this type of package at least two tear off strips are provided in order to permit separation of the top and base.

In another embodiment, the so called "American" package, the top and base are formed by top and bottom folding flap closures which depend from the side portions. Only one tear off strip is necessary with this type in order to permit separation of the top and base.

The rows of strips may be continuous or discontinuous. Conveniently the or each tear off strip has at one end a tab which serves as a finger hold. Advantageously, a or a respective finger hole or recess is provided in the side portion of the package adjacent to the end of the tear off strip to facilitate gripping of the tear off strip.

In a preferred embodiment at least one cut out is provided in one or more of the side portions of the package and the tear off strips extend between the cut outs and the edges of the material from which the package is made.

Providing apertures has the advantage of a shrink-wrapped package namely that the contents are identifiable visually.

According to another aspect of the present invention there is provided a blank for forming into a package, the blank having fold lines which delimit base, top and side portions of the package, the side portions having formed therein two rows of perforations which define therebetween one or more tear off strips.

In one embodiment the rows of perforations extend across each side portion to define one continuous tear off strip. In another embodiment two of the side portions have cut outs and the two rows of perforations extend between the respective cut outs, two tear off strips being provided.

A package in accordance with the invention has the advantage that the upper portion of the package can be easily removed leaving the lower portion to act as a simple display tray for the contents. Thus the need to remove the contents from the package is avoided with the consequential saving in time and possible accidental damage to the contents in the process.

Whilst not essential for the success of the invention the provisions of small finger holes and

finger tabs provides a particularly effective means of facilitating removal of the perforated strips. Where the carton is provided with apertures in the sides of the box, the strip or strips may project into these apertures forming finger tabs.

The positioning of the rows of perforations within the blank may be used in an advantageous manner to determine the shape and style of the resultant display tray.

The invention will now be described further, by way of example only, with reference to the accompanying drawings, in which:—

Fig. 1 is a perspective view of a first embodiment of a package in accordance with the invention;

Fig. 2 is a perspective view of the embodiment of Fig. 1 with the upper half of the package removed;

Fig. 3 is a developed view of the blank of the embodiment of Fig. 1;

Fig. 4 is a perspective view of a second embodiment in accordance with the invention; and

Fig. 5 is a developed view of the blank of the embodiment of Fig. 4.

Referring to the drawings of Figs. 1, 2 and 3 there is shown a package and blank of the "wraparound" type incorporating the invention. The package comprises a cardboard blank, shown in Fig. 3, which has a substantially rectangular portion 1 having transverse fold lines or creases 11 dividing the rectangular portion into a base 5, a side 7, a top 3 and a second side 9. A pair of longitudinal fold lines or creases 13 define side closure flaps 15 which depend from the longitudinal edge of each of the side, top and base. Each side portion 7, 9 and the side closure flaps 15 depending therefrom have two rows of spaced parallel perforations 19, 21 formed therein. In the illustrated embodiment the rows of perforations extend transversely between the longitudinal edges of the blank and the apertures 17 to define, in each side 7, 9, between the two rows, two tear off strips 23, 25. Each strip is provided at the end, adjacent to the longitudinal edge of the blank, with a finger hold tab 27.

Referring particularly to Fig. 1 it will be seen that in the package formed from the blank the rows of perforations extend around the sides of the package parallel to the base. For the purpose of storage and shipment the package performs like an "American carton". The advantage arises when it is required to display or sell the contents. Rather than have to break open the box and remove the contents, the package in accordance with the invention is readily separated into an upper portion and a lower portion simply by pulling the tear off strips 23, 25 as indicated by the arrows so as to separate the package into a lower display tray holding the contents and discarding the upper portion. Such a display tray is shown in Fig. 2. The invention is particularly suitable to the packaging and subsequent display of bottles. The provision of the aperture 17 in the side of the package is of advantage in identifying the contents prior to separation. In addition the aperture is helpful in determining the outline of the display which may have aesthetic advantages.

In one embodiment (not illustrated) the apertures are omitted and in another the rows of perforations are not necessarily parallel with respect to the transverse fold lines 11. Thus the display portion may have a slanting, V-shaped or arcuate edge according to any preferred shape. When the tear off strip 23 or 25 is positioned where there is no aperture only one continuous strip would be required for each side portion 7, 9.

Referring now to the drawings of Figs. 4 and 5 there is shown a package and blank of the "American carton" type incorporating the invention. The package comprises a substantially rectangular blank 30 having transverse fold lines 32 dividing the rectangular blank into two ends 34, 38 and two sides 36, 40. A pair of longitudinal fold lines 42 define top closure flaps 44 depending from one longitudinal fold of the blank and bottom closure flaps 46 depending from the other longitudinal fold of the blank. Slits 48 are made between the adjacent top and bottom closure flaps. Each side portion 36, 40 has a substantially rectangular aperture 50 therein and two rows 52, 54 of spaced parallel perforations extend transversely of the blank. In the illustrated embodiment the rows of perforations 52, 54 extend from the transverse edges of the blank to the edges of the apertures 50 and between the adjacent edges of the two apertures 50, to define therebetween a tear off strip, generally indicated at 56. In the illustrated embodiment a pair of finger holes 58 are provided in each of the end portions 34, 38 and thus the tear off strip is divided in this embodiment into five parts 60, 62, 64, 66, 68. Finger tabs may be provided at the end or ends of the tear off strips. When apertures 50 are provided in box sides, finger holes are not essential and may prove disadvantageous in terms of the ultimate stack strength of the carton.

Fig. 4 shows the assembled blank and it will be seen that in this embodiment the rows of perforations again are disposed parallel with the base and extend around the perimeter of the package. The top and bottom closure flaps are secured together by adhesive tape or staples. In the same manner as the first embodiment the tear off strips are easily removed so as to separate the upper and lower portions of the package to permit display of the contents.

The aperture 50 is an optional feature and as with the first embodiment the rows of perforations may extend continuously around the perimeter of the package and may be either straight, angled or curved, so as to form an edge, on separation, of the desired shape.

In another alternative embodiment not illustrated the finger tabs of the tear off strips are formed by lugs which project into the apertures in the side or sides of the package.

The package has been described with reference to a rectangular shaped package but it will be appreciated that the invention is equally

applicable to other shapes of packages.

The package is used for storage and shipment and cardboard has been proved a suitable material for the blank to withstand the handling and storage loads. The double row of perforations does result in some weakening of the inherent strength of a wraparound or American carton, but by choosing the dimensions of the carton blanks for a given packaging unit such that the top of the finished package rests accurately and directly on top of the contents, e.g. in the case of bottles directly on the caps, a greater ability to withstand pressure without collapsing can be achieved. Thus the contents act to impart strength to the package with the wraparound package the "leading edge" flap is advantageously fore shortened so that it does not overlap the first row of bottle caps. This ensures that the top rests directly on all the tops and avoids the possibility of collapse because some additional length of the sides would otherwise be necessary to cater for this overlap. Other materials such as semi-rigid plastics may be used for the blank.

Where the package may be stored in a dusty environment the aperture or apertures in the sides of the box may be sealed by a transparent membrane, for example a plastics material such as polythene.

CLAIMS

1. A package for containing articles comprising a base, a top and side portions, the side portions having two rows of spaced apart perforations which define therebetween at least one tear off strip by means of which upper and lower portions of the package may be separated.

2. A package as claimed in claim 1 of the wraparound type in which two sides are formed by side folding flap closures which depend from the top, base and two side portions.

3. A package as claimed in claim 1 in which the base and top are formed by respective base and top folding flap closures which depend from the side portions.

4. A package as claimed in any of claims 1 to 3 in which the tear off strip is provided with a tab at one end which serves as a finger hold.

5. A package as claimed in any preceding claim in which an aperture is provided in a side portion of the package.

6. A package as claimed in claim 5 when appendent to claim 2 in which the tear off strip extends between the aperture and an edge of the side flap closure.

7. A package as claimed in claim 4 or 5 when appendent to claim 2 in which the tear off strip extends between the edge of the two opposite side flap closures which depend from one of the side portions.

8. A package as claimed in claim 5 when appendent to claim 3 in which the tear off strip extends between the edge of apertures formed in two opposite side portions.

9. A package as claimed in any of claims 1 to 8 in which the lower portion of the package has a free edge when separated which is of a predetermined shape.

10. A package as claimed in claim 9 in which the shape of the free edge is determined by the path of at least one row of the perforations.

11. A package as claimed in claim 9 or 10 in which the free edge or at least part of it is arcuate or straight and inclined with respect to the base, or straight and parallel with respect to the base or any combination thereof.

12. A package as claimed in any of claims 1 to 10 in which the tear off strip defines a plane of separation between the upper and lower portions of the package which is inclined with respect to the plane of the base.

13. A package as claimed in any preceding claim in which the two rows of perforations are parallel to one another.

14. A blank for forming into a package, the blank having fold line which delimit base, top and side portions of the package, the side portions having formed therein two rows of spaced apart perforations which define therebetween one or more tear off strips.

15. A blank as claimed in claim 14, in which the perforations follow a path of predetermined shape.

16. A blank as claimed in claim 15, in which the perforations follow an arcuate path or a path which is inclined with respect to the base of the package.

17. A blank as claimed in claim 14, 15 or 16, for forming a rectangular package, the blank being generally rectangular with the at least one tear off strip lying generally transverse to the longitudinal edges of the rectangular blank.

18. A blank as claimed in claim 17, in which the or each tear off strip extends between the longitudinal edges.

19. A blank as claimed in claim 17 or 18, in which the or each tear off strip is perpendicular to the longitudinal edges of the blank.

20. A blank as claimed in claim 17, 18 or 19, in which the longitudinal edges are formed by end flap closures which depend from the top, base and two side portions disposed side by side and forming the central body of the generally rectangular blank.

21. A blank as claimed in any of claims 14 to 20, in which an aperture is provided in one or more of the side portions.

22. A blank as claimed in claim 21, in which the or each tear off strip extends between a longitudinal edge of the blank and the aperture formed in the side portion.

23. A blank as claimed in claim 14, 15 or 16, for forming a rectangular package, the blank being generally rectangular with the at least one tear off strip lying generally parallel to the longitudinal edge of the blank.

24. A blank as claimed in claim 23, in which the or each tear off strip extends between the transverse edges of the blank.

25. A blank as claimed in any of claims 23 or 24, in which the longitudinal edges are formed by respective top and bottom flap closures which

depend from side portions disposed side by side and forming the central body of the generally rectangular blank.

26. A blank as claimed in any of claims 23, 24 or 25 when appendent to claim 14, in which an aperture is provided in one or more of the side portions.

27. A blank as claimed in claim 26, in which the tear off strip extends between the transverse edge of the blank and the aperture.

28. A blank as claimed in claim 26, in which one of the tear off strips extends between the apertures formed in two opposite side portions.

29. A blank as claimed in any of claims 14 to 28, in which the or each tear off strip is provided with a finger tab.

30. A blank as claimed in claim 29 when appendent to claims 21, 22, 26, 27 and 28, in which the or each tear off strip is provided with a finger tab which projects into the aperture in the side portion.

31. A blank constructed and arranged substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings of Figs. 3 and 5.

32. A package constructed and arranged substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings of Figs. 1 and 3.

Printed for Her Majesty's Stationery Office by the Courier Press, Leamington Spa, 1982. Published by the Patent Office, 25 Southampton Buildings, London, WC2A 1AY, from which copies may be obtained.